The WAHL
Service Manual
for
EVERSHARP
REG. U. S. PAT. OFF.
and
WAHL PEN

THE WAHL COMPANY
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THE WAHL
Service Manual
for
EVERSHARP and WAHL PEN

Care and Upkeep of an Eversharp

Article 1

HOW TO CLEAR A CLOGGED TIP AND REPLACE A BROKEN TIP

(A) Remove magazine from barrel as when refilling pencil.

(B) Place the point of pencil into tip pliers (Tool No. 35) and remove the tip by turning to the left.

(C) Bore the lead from the tip end of barrel and from the tip itself if clogged, with the hand drill shown as tool No. 18.

(D) When screw end of tip is broken and remains in barrel, try to unscrew the piece of tip which remains in the barrel by inserting a square tapered file or piece of steel (tool No. 19). If you cannot remove the piece of tip in this manner, remove the magazine and apply the heat of an alcohol lamp, using tool No. 26, and remove the inner barrel. Now remove the funnel (E-3 and E-4) by forcing sharp end of tool No. 19 (funnel remover) into it and pulling out. Apply heat to the broken part of tip. Then push it in through the barrel using tool No. 33. Supply a new brass bushing (E-2). Drop this into the barrel and then with tool No. 13 hold bushing and screw in a new tip. It is not necessary to solder the brass bushing. Next drop the funnel in place and reassemble clip and inner barrel as instructed in operations C and D in Article No. 6.

Article 2

ASSEMBLING A NEW TIP

(A) Take the tip between thumb and finger and screw it in about 1/16 of an inch into the tapered end of the barrel.

(B) With a small brush or toothpick apply a little red lead to the thread of tip and screw tip firmly into position.

(C) When assembling a new tip in a pencil you may notice a slight difference in the outside diameter of the tapered end of pencil barrel and the diameter of the large end of the tip. This will necessitate selection of a tip of proper outside diameter from your tip assortment.

Article 3

LOOSENING TIGHT CAPS

With the left hand insert the blade of fiber wedge, No. 37, included with kit, between the two sections of the magazine. Holding the magazine firmly in position by the wedge in one hand, it will be easy to pull off the cap with the other. By slightly filing, with a fine file, the surface of the bushing, or inner cap, at the end of the pencil, the tightness of the cap can be easily corrected. If cap sticks too tightly, a new cap should be supplied to the customer at no charge.

A tight cap can generally be removed without resorting to the use of any tool, by merely pulling out the magazine about an inch, then holding the barrel firmly in the left hand with the thumb along the magazine, and working the cap up and down with the fingers of the right hand, until the cap is loosened. If it can not be removed in this manner use cap puller tool No. 25.

Article 4

TIGHTENING A LOOSE CAP

Remove cap and lay on hard surface. Apply pressure to the concave sides of the cap with the barrel of the pencil, rolling back and forth so that the cap rolls under the pressure. This will preserve the roundness of the cap and prevent any chance of marring the finish.

Article 5

TIGHTENING A LOOSE MAGAZINE

Draw the magazine from the barrel, insert the tip of wedge-shaped spreader, No. 37, supplied in kit, between the sections of the maga-

zine and spread them to the proper tension.

If magazine is spread too far, press sections to proper position with the fingers.

When magazine becomes unsoldered so that the cross head and end of magazine remain in barrel, remove the loose end of magazine and with cross head remover tool No. 14 unscrew and remove the cross head. Now shake pencil barrel to remove end of magazine and assemble new magazine.

Article 6

TIGHTENING A LOOSE INNER BARREL

IMPORTANT: These instructions do not apply to solid gold or enameled pencils, which must be sent to the factory.

(A) Unscrew the magazine from the barrel.

(B) Insert the threaded end of the inner barrel remover into the inner barrel far enough to get a good purchase and draw the inner barrel from the outer barrel. This, of course, can only be done with a loose inner barrel. If barrel sticks, remove as in paragraph B, Article No. 7 below.

(C) Re-insert the inner barrel in the outer barrel, leaving about an inch projecting.

(D) To the projecting end of inner barrel, on side opposite clip, apply a little soldering paste so the solder will take. Then push inner barrel all the way in. Do not hammer or force inner barrel. If it will not go all the way in with a little pressure square off the remaining portion with a file.

(E) Hold pencil over alcohol lamp (giving it a slight revolving motion) for a few moments to allow solder to melt and be distributed evenly. Be careful that the pencil does not become too hot, as the surface may be impaired.

It is seldom necessary to apply any extra solder to inner barrel. In almost all cases the solder remaining on surface of inner barrel is sufficient.

Care must be taken not to place the side of the barrel with the clip in the flame as heat spoils the temper in the clip, which will cause it to lose its tension and bend easily.

(F) In miniature and midget miniature pencils the inner barrel and funnel are in one piece. Send for special tools for repairing these. When repairing funnel, magazine or inner barrels, be sure to use the long length for long pencils, medium length for short or ladies' size pencils and the short length for midget pencils.

No solder is used in inner barrel or funnel of Commercial (Bakelite) Eversharp. To dismantle, unscrew the magazine and tip and the inner barrel and funnel will fall out. To assemble, first push the inner barrel into barrel with the three-cornered end of inner barrel in first. Then drop the funnel in and tap pencil on wood until funnel shows at the tapered end of pencil. Pull the funnel through the tapered end as far as it will come; then screw on the tip and assemble the magazine.

Article 7

REPLACING BROKEN CLIP

IMPORTANT: These instructions do not apply to solid gold and enameled pencils, which must be sent to the factory.

(A) Remove the magazine from the barrel.

(B) Hold the butt end of the barrel, on the side opposite the clip, for about a minute, over the flame of a gas jet or alcohol lamp until the solder which holds the inner barrel to the outer barrel is softened. Make sure that the side of the barrel with the clip is not held in the flame.

(C) Then insert the threaded end of the inner barrel remover (Tool No. 26) into the barrel until sufficient purchase is obtained, and draw the inner barrel from the outer barrel.

(D) If the clip is broken it will probably fall out as soon as the inner barrel is removed from the outer barrel. If not, a slight pressure should dislodge it.

(E) Place new clip into position by inserting the end into the barrel and through the clip slot.

(F) Hold clip into position by the pressure of the thumb.

(G) Re-insert the inner barrel until about one inch projects from the barrel. This will hold the clip in position.

(H) Repeat operations D and E, Article No. 6.

Article 8

HOW TO ADJUST OR TIGHTEN A LOOSE CLIP

Remove magazine, apply heat to barrel and remove inner barrel. Then remove the clip. Next insert an arbor of the right diameter into the barrel and burnish the barrel around the clip perforation using flat burnishing tool No. 5. With the shape restored, reassemble clip and inner barrel as outlined in Article No. 7. It is occasionally possible to burnish the barrel around the clip perforation without removing inner barrel.

Article 9

REPAIRING A BENT CLIP

When clip is bent out away from the barrel so that it does not hold the pencil in the pocket, place the pencil on a wooden block with clip side up and with fiber hammer No. 45 tap the clip in lightly until it returns to its normal position. See cut No. 12 in the Wahl Pen section of this manual.

FOUNTAIN PEN REPAIR SERVICE

Fountain pens, due to the action of the various inks used and the manner in which they are carried, used and misused, sometimes get out of order, hence the necessity of fountain pen service stations. Fountain pens can always be repaired by sending them back to the factory, but this requires a great deal of time and is therefore impractical. Any pen dealer can render fountain pen service to his customers if properly instructed and supplied with the necessary tools and replacement parts. This booklet with its accompanying illustrations makes it easy for anyone to give good fountain pen service. With the fountain pen kit herein illustrated, any dealer or clerk can render a pleasant and profitable service.

No one can expect to make perfect pen repairs without a little practice. But by properly following the instructions contained here, the average layman can soon become an expert in this line.

Everyone familiar with the retail sale of pens, has often heard a customer say, "Something is wrong with this pen." If something is actually wrong, there is a definite reason for the trouble. The principle cause of dissatisfaction with fountain pens lies in the fact that people differ widely in their physical and nervous organizations. No two people do the same thing actually alike. This applies to writing, perhaps a little more than to some other things. NO TWO PEOPLE WRITE ALIKE. A pen that just suits one person, may be entirely useless to another; hence the necessity of fitting each person with a pen suited to his or her style of writing.

Even though everyone were equipped with a pen actually suited to the hand, still many occasions arise for making re-adjustments, repairing and replacing.

BROKEN PARTS

With the Wahl Fountain Pen Repair Kit, you can with ease and profit handle almost any repair job. If you run into any part of the work which you find unusually difficult for you, write to the nearest office of The Wahl Company, Chicago, New York, or San Francisco, marking your letter for the attention of the Service Department, and any additional information desired will be given you promptly. This service will do much toward increasing your list of satisfied customers and will prove a valuable feature in your store.

THE GOLD PEN OR NIB

No gold pen (commonly called nib) can be serviceable or long-lived unless tipped with the very best grade of hard iridium. Wahl Pen nibs are all made of the same material. We have only one quality, the very highest. Each nib is made of 14K solid gold and is tipped with the finest and hardest grade of iridium that money will buy. This iridium is so hard that before it is ground it is possible to write in a pane of glass with it. One good-sized piece of this hard iridium is used to tip each Wahl pen. It is fused on the end of the nib in such a manner as to make it a part of the pen itself. In grinding our nibs we are careful to keep them free from "under cuts" and to leave no gold on the back of the extreme points of the nib which might catch in the paper when writing and cause the pen to scratch. In short, the iridium tip is exposed both in back and front and at the sides of the nib and this iridium is the only part of the pen which touches the paper during the process of writing.

The slit in the gold pen is very important. If the slit is untrue, the entire nib is worthless. If too wide, the flow of ink will be too fast. A crooked slit prevents a perfect flow of ink. It is only with the greatest care that we are able to make certain that the slits in our pens are absolutely true, running parallel with the channel of the feed and insuring a perfect flow.

The location of the heart or pierce (the small hole from which the slit runs to the point of the pen) is very important. When the pen is in use, air enters through this pierce, passes through the feed channel into the ink sac and permits the ink to flow down the feed bar. The proper location and size of the pierce regulate the amount of air going into the ink sac and in turn regulate the amount of ink which flows to the point of the pen.

The "set" in gold pens is essential. Too much set or tension prevents the proper functioning of the pen. We use just enough set to hold the points together when they are not in use. A slight touch on the paper will part the pen points and start the flow of ink. Too much flexibility (too little set) is just as bad as not enough. By rolling the nib to just the right thickness, we secure just the flexibility that is required. Most cheap gold pens on the market are bent near the point; they have what we call a "hooked over nib." It is necessary to hook these cheap nibs on account of the very small amount of gold in them. These nibs are not only unsightly but are very apt to scratch on the up stroke. The Wahl nib is straight and perfectly aligned with the holder. The iridium points are ground and smoothed in a ball fashion so as to write as nearly like a pencil as possible. This eliminates scratching and catching in the paper and allows the pen to glide over the paper with the ease and smoothness for which the Wahl Pen is noted.

Many retail fountain pen dealers pay little attention to the so called special points or nibs. Our special nibs, such as the Manifold, Posting, Bookkeepers', Stenographers', Falcon,

Waverly and Signature nibs have no superior for their particular functions and when the public appreciates their convenience and utility they will speedily come into general use.

INSPECTION

Every Wahl Pen is inspected after each operation. Each individual part of the pen is given a thorough inspection before assembly. Each sub-assembly is inspected after each operation, and the whole pen when assembled is put through rigid tests and carefully examined by a corps of competent inspectors. All these inspectors are practical pen makers, having had years of experience on the bench. After inspecting the pens with a magnifying glass to be sure that all parts are perfect, the dimensions are checked with a micrometer. They are then given an actual writing test on paper and when they finally receive the inspector's O.K., they are ready to go into the dealers' hands, better, we believe, than any other pen on the market.

PROPER CARE AND UPKEEP OF A WAHL PEN

Article 1

FITTING A PEN TO THE USER'S HAND

Fitting a pen to the user's hand is the most important factor in the sale of a fountain pen. If more time were spent in doing this at the time of sale, at least half of so called fountain pen troubles could be eliminated. Often times a customer will say, "This pen scratches" or "This pen flows too fast" or "This pen flows too slowly," when the real answer is that it is no suited to the user's hand. Mechanically all pens are almost perfect. Fountain Pen satisfaction therefore, is not so much a matter of getting a pen which is mechanically correct as it is of selecting the style of pen best suited to the individuality of the user. A person should be offered a fine, medium, coarse, manifold, posting, oblique, stub, half stub, or signature nib, stiff or flexible, with the ink flowing evenly, either fast or slowly, according to the writing style of the user.

The Wahl Pen line is complete with all styles of nibs, and each retail sales person should inform himself on these various nib styes and make a special effort to find the exact style his customer needs. This knowledge of the line not only makes the purchaser a loyal customer, but creates confidence in the dealer and the product purchased. If you do not have in your stock the exact pen wanted, do not substitute, but write us, sending if possible a steel pen that just suits the user, and we will endeavor to match it exactly in a Wahl Pen.

The following information on nib styles will explain each nib and give its use. Always bear in mind that the most important operation in fountain pen manufacture is the making of the gold nib itself. As the point writes, so will the pen be judged. For this reason, we are very particuar about the quality of material and the skill of the labor employed in the nib-making process. None but thoroughly experienced men are employed to perform the operations required to make our gold pens. As a result we believe that our pens have no equal in style, shape and writing quality.

LONG FINE

Long fine points are used for light writing, where small lines are desired. They are in general use among ladies and girls and are used by many men who write with a light stroke. They are also good for fine penmanship where shading is desired. Made in sizes 2 to 6 inclusive.

LONG MEDIUM

Used for all ordinary writing purposes. This is the most popular nib on the market and is suited to a large number of men, women and children. It writes a medium sized line and is sometimes used where shading is desired. Made in sizes 2 to 6 inclusive.

LONG COARSE

Used where the writer wishes a heavy line on both direct and cross strokes. Good ior heavy shading. Made in sizes 2 to 6 inclusive.

STUB

Used by persons desiring a short nib that makes a heavy line on the down stroke and a light line on the up stroke. Used also by back-hand writers and sometimes for hand lettering where bold characters are desired. Made in sizes 2 to 6 inclusive.

HALF STUB

Practically the same as the stub with the exception that the point is not so wide. Made in sizes 2 to 6 inclusive.

OBLIQUE

Very similar to a stub, but is beveled off at the side of the point to suit a person who holds the pen-holder between the fingers instead of between the thumb and index finger A right-handed person uses a right oblique, and a left-handed person uses a left oblique. When ordering specify which is wanted, as the right oblique is always shipped unless otherwise specified. Made in sizes 2 to 6 inclusive.

FALCON

Very much like a fine, medium or coarse long nib, only is a trifle more flexible on account of being cut out on the sides. Made in fine, medium and coarse, in sizes 4, 5 and 6 only.

STENOGRAPHER

A long fine flexible nib intended to give perfect satisfaction in making characters used by stenographers. Made in sizes 2, 3 and 4 only.

BOOKKEEPER

A long and fairly stiff nib made of heavy stock to enable the writer to make small clear-cut figures. Made in sizes 2, 3 and 4 only.

MANIFOLD

A short stiff nib about the size of a medium point. A favorite among salesmen and people who make carbon copies. It is also good for general writing purposes. Writes on rough or cheap paper and will stand very hard usage. The point for people with a heavy hand. Made in sizes 2 to 6 inclusive.

POSTING

A short stiff nib with a fine point, suitable for ledger men, bookkeepers and accountants. Adapted for fine figure work on books. Made in sizes 2 to 6 inclusive.

WAVERLY

This nib is sometimes called the "turn up" or "ball point" nib. Made with a medium size point only. It is a smooth writing pen at all angles. Writes well on rough paper. A favorite among nervous or old people. Made in size 4 only.

NEEDLE POINT

Used for extra fine writing and unless properly used will appear to scratch. Good only for a very light hand. Made in sizes 2 to 6 inclusive.

SIGNATURE

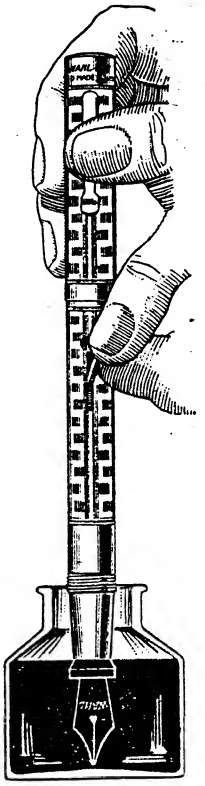
Designed for those who like a heavy durable nib of the manifold type. It is heavy enough to make carbon copies, still is not so hard and stiff as to make writing tiresome. Has a very smooth writing point. A very easy writing nib with a large ball point. Good for use by either heavy or a light hand on any kind of paper. Will stand lots of hard work. The ideal pen for general writing purposes.

Article 2

PROPER METHOD OF FILLING A WAHL SELF-FILLING PEN

The importance of properly filling a fountain pen is second only to that of the correct selection of the right style of pen inasmuch as no pen will give good service unless properly filled.

Wahl pens should be filled with good bottled fountain pen ink. Never fill a fountain pen from an open well at a hotel, Post Office or railway station. Fountain pen ink should always be free from dust, dirt and other foreign matter.



Cut No. 1

Hold the pen in a perpendicular position with the point down and raise the lever on the side of the barrel. Then completely submerge the gold pen point and the end of the point section in the ink. (See cut No. 1.) While in this position lower the lever to its normal position allowing point and point section to remain submerged in ink for about five seconds in order to allow the rubber sac to draw in a full charge of ink. In the case of a new pen repeat this lever movement to draw in and expel ink several times in order to thoroughly moisten the ink channel in the comb feed. This is necessary to get a proper ink flow at the start. Now, still holding the pen with the point down, wipe off the surplus ink from the gold pen and feed and the pen is ready for use. If during this process there is a sound of drawing or sucking air, the operation should be repeated dipping the point deeper in the ink bottle. Unless the gold pen and the end of the point section are completely submerged in ink and left in long enough to allow the sac to draw in a full charge of ink, air bubbles will be drawn into the sac and the pen will be only partly filled. These air bubbles first retard the flow of ink and then as the air rushes to the top of the ink sac they have a tendency to force out the ink and let it flow too rapidly, causing the pen to flood or drop ink. The larger the pen the more necessary it is to follow these instructions. Every sales person should satisfy himself that every purchaser understands the proper method of filling a fountain pen.

Article 3

HOW TO CLEAN A WAHL SELF-FILLING PEN

More pens go to repair stations on account of being dirty or clogged than for any other reason. Every purchaser of a fountain pen should be told the importance and necessity of cleaning his pen at regular intervals.

To clean a Wahl pen repeat the filling operation several times as outlined in Article 2, using cold water instead of ink. If the pen is clogged use a solution of one part ammonia to three parts water in order to dissolve the dried ink so that it can be removed with a soft brush from the outside of the gold pen and feed. By filling with and expelling the water several times the channel in the feed will be cleaned out. Repeat this operation in clean

water to get the ammonia solution out of the pen. Then shake it out well in order to expel all the water and the pen is ready for filling as explained in Article 2. DO NOT USE HOT WATER as hot water softens the hard rubber parts. Clean out the inside of the cap occasionally with a piece of soft cloth or tissue paper. Clean out the air holes in the side of the cap with an ordinary pin. When pens are badly clogged with poor ink or with dried ink, the best way is to pull the nib and feed out of the point section and brush the nib and feed with water or a solution of ammonia and water, at the same time seeing that the point section is properly cleaned out. On badly clogged pens it is sometimes difficult to pull out the nib and feed from the point section. See Article 10 for method of getting these out. After properly cleaning the nib, feed and point section, reassemble the ink sac as described in Article 11; then assemble nib and feed as outlined in Article 10.

It is well to examine the feed carefully and if in any way damaged, or if impossible to get the fissures thoroughly cleaned out, supply a new feed. If sac is old, worn or damaged, supply a new one.

When removing gold pen point from the point section or reassembling same, or when removing or reassembling the point section itself, it is well to use a thin piece of flat sheet rubber as a grip. This will facilitate the work and is also a protection to the hand and fingers. If you cannot get a piece of ordinary thin sheet rubber use a piece of an old inner tube.

Article 4
"THIS PEN LEAKS"

So-called leaky pens should first of all be thoroughly examined and given the following test:

Discharge ink by raising and lowering the lever several times and then try filling the pen according to the instructions given in Article 2, wiping off the surplus ink as instructed. Now hold the pen in a perpendicular position (with the pen point down), to find whether the ink drops from pen point. If it does not, reverse the position of the pen so the point is up. Screw the cap on tightly and if the pen leaks inside the cap it is a sign of a defective inner cap or a punctured ink sac. Make the following test:

First expel the ink by raising and lowering lever and wipe the pen dry. Now screw the cap on the barrel tightly. Try to raise the lever with the cap on the barrel, being careful to note whether or not the air is being compressed in the inner cap. If the lever resists efforts to raise or if something seems to be holding it down, this is an indication that the inner cap and ink sac are all right. If the lever lifts up easily, either the ink sac is punctured or the inner cap is cracked or not properly faced. See method of replacing these parts in Articles 11, 14 and 18. See that the air holes in the cap are open. If after the foregoing tests the pen still leaks, examine the comb feed and the gold pen. The feed should be tight against the gold pen. By holding the pen in a horizontal position and looking at it toward the light using a magnifying glass, you can see whether the feed is or is not tight against the nib. If it is not, heat should be applied to the feed and the same process followed out as when adjusting the nib as outlined in Article 10.

Article 5
"INK DROPS OFF THE POINT"

The principal cause for ink dropping off the point of a pen is improper filling. First try to correct the trouble by properly filling the pen as outlined in Article 2. Frequently the trouble is caused by the ink sac being nearly empty. If properly filling the pen does not correct the trouble, examine the position of the comb feed on the gold pen to see whether it is out of adjustment. If so, follow the instructions for adjusting pens as outlined in Article 10.

Article 6
"THIS PEN WON'T WRITE ON FIRST STROKE"

The pen may be filled with heavy copying or cheap, inferior ink. It may have been out of use for some time and is partially clogged up with dry ink, or the channels in the feed may be dry. Try washing it out as outlined in Article 3, then refill with good fountain pen ink following instructions given in Article 2. Very often the failure of a pen to write at the first stroke is due to the fact that the nib is too stiff or too flexible to meet the requirements of the user. If this is the case, the nib should be exchanged for one that suits. The nib also might be set too tight. By the "set" we mean the spring between the two nib points. Too much set can be taken out as shown in Article 10.

Article 7
"THIS PEN SKIPS"

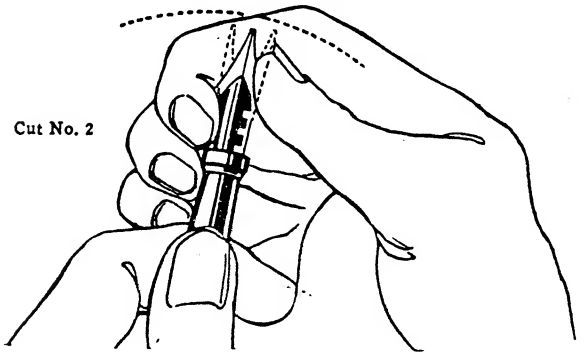
The instructions contained in Article 6 cover this point, inasmuch as causes for the trouble are practically the same.

Article 8
"THIS PEN SCRATCHES"

Oftentimes this complaint is made because the pen does not suit the writer's own particular style. A fine pointed pen in a heavy writing hand will appear to scratch. In such a case the remedy is to change the point to a medium or half stub or such other style nib as exactly fits the user's hand. Another frequent cause of scratching is that the gold nib may have met with an accident or may have become sprung. Examine the points with a magnifying glass to be sure that they are in perfect alignment. The iridium points may be chipped or the gold pen itself may be cracked or out of shape. Gold pens that are out of shape or bent can sometimes be burnished to

their proper shape as explained in Article 10. See cut No. 2 for proper method of removing the gold pen from the holder. If the pen is scratchy or if the iridium tip is chipped off, see Article 10 for the remedy.

Cut No. 2



Article 9
"I GET MY FINGERS COVERED WITH INK WHEN I TAKE THE CAP OFF THIS PEN"

The leaking of ink around the point section or into the inner cap may be caused by holding the pen with the point downward and screwing on the cap. This would permit the feed channels to be completely filled with ink and then when the position is reversed with the pen-point upward, the ink cannot flow back into the sac on account of the chamber around the gold pen, which in this case forms a vacuum. This results in the ink flowing along the side of the gold pen into the inner cap. If the cap is not screwed on tightly when the pen is carried in the pocket or purse, there is no air-tight compartment around the nib and the ink is allowed to flow without restraint, sometimes filling up the inner cap and creating the impression that the pen leaks. For the possible cause of this trouble see Article 4.

Article 10
HOW TO STRAIGHTEN, SMOOTH, CLEAN AND ADJUST A GOLD NIB

Through misuse and accident gold nibs are frequently bent, twisted and sometimes broken. Before attempting to straighten a nib, examine the iridium point through a magnifying glass in order to see what condition it is in. If the iridium is chipped, or if one iridium point is missing, do not attempt to straighten, as it is only a waste of time. This is also true where a gold nib shows a crack near the heart or at the shoulder of the nib. When such pens are twisted beyond hope of straightening, a new gold pen must be supplied, duplicating the old one as nearly as possible as to size, width of point and flexibility. The accompanying cut of our assortment of nibs will be found a valuable asset to your pen repair department, as it contains an assortment of nibs suitable for all replacement work.

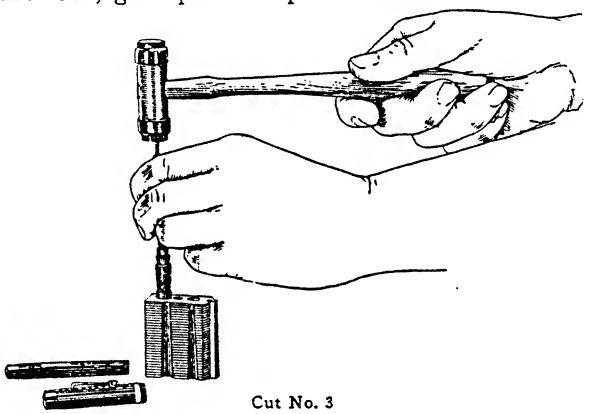
When a gold pen is bent only slightly down or up, it is not always necessary to remove it from the holder, providing of course that the pen is not in need of a thorough cleaning. When only slightly bent or when one point appears to be ahead of the other, it can be manipulated back into place with the thumb nail and forefinger without removing pen from holder. If badly bent remove gold pen from holder as shown in cut No. 2. Where the points are badly bent downward, it will be necessary to use the burnishing anvil No. 47 and the hand burnishing tool No. 5. After thoroughly cleaning the gold pen place it on the burnishing anvil, making it fit so that the heel and the flange of the pen coincide with the tapering surface of the burnishing anvil. Hold the pen firmly with one hand and with the other place the round surface of the flat burnishing tool No. 5 on the nibs of the gold pen and proceed to burnish them, using the forward and backward motion until the points return to their normal position. **Warning**—Do not burnish on the extreme points of the pen as this will damage the iridium and ruin the pen. Be careful not to overdo this operation as you are likely to spread the gold and fill up the slit in the pen, thus preventing a proper ink flow. Use a magnifying glass constantly to examine the pen during the burnishing operation.

When the points on nibs are bent upward, place the gold pen in the groove of the burnishing block No. 47, moving it backward or forward until the surfaces of pen and block coincide. Place the end of the round nosed burnisher No. 4 on the nibs, proceed as before and burnish the nibs back into place, but be careful not to damage the iridium at the extreme points. Be sure to get the nibs perfectly even and then with the thumb nail and forefinger bend the nibs to give them the proper set.

Do not attempt to smooth the points of the pen until pen is assembled into the holder and properly adjusted. First try the pen on a piece of paper for smoothness. If the point scratches noticeably in writing, this condition can be removed by using a piece of 000 Crocus paper No. 12. Holding the pen in writing position rub the point over the Crocus paper in the shape of a large figure eight, rolling the pen from side to side at the same time so as not to change the shape of the point. This operation should remove the sharp corners, if any, and smooth the pen point. If the pen still seems to be scratching, make a few circles and then a few up and down and cross strokes on the Crocus paper, being careful not to bear down too hard nor to continue the operation too long, as this will wear out the iridium points. Now buff the gold pen to a high polish with buff stick No. 42.

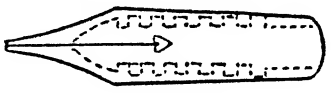
When necessary to remove gold pen from holder, hold the point section tightly with the fingers, then move the gold pen back and forth in a semi-circular motion around the feed, at

the same time pulling out on the pen slightly so as to work it out of the point section. See cut No. 2. By working the gold pen out in this manner there is no danger of chipping the iridium off the nibs. If you find it difficult to hold the point section firmly during this operation, place a piece of sheet rubber around point section to increase friction. A small piece of sheet rubber is also useful in handling the gold pen while taking it out. If you find it impossible to remove the gold pen in this manner, pull the point section out of the barrel as instructed in Article 11, and remove ink sac from the point section. Then place the gold pen and feed in the proper sized hole in block No. 47 and with drift pin No. 33 or 34 drive gold pen and feed bar out of point section. See cut No. 3. Warning—Do not use pliers for removing or inserting a gold pen. Now with gold pen and feed bar removed drop both in a solution of three parts water and one part ammonia and with brush No. 36 thoroughly clean the feed, gold pen and point section.



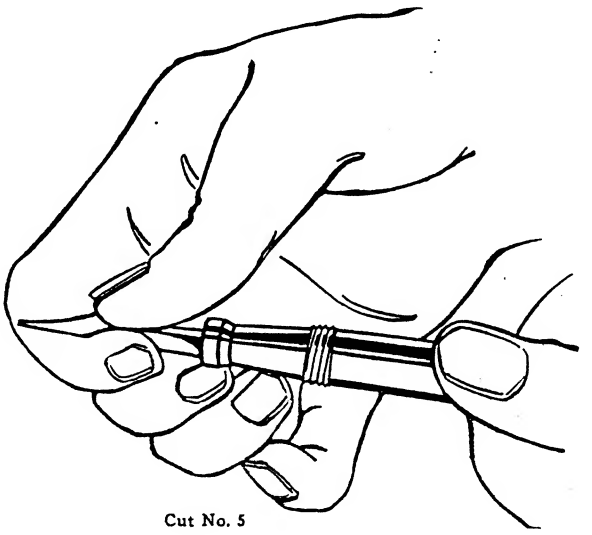
Cut No. 3

To adjust a gold pen proceed as follows: First examine nib with magnifying glass to make sure that the points are in alignment. See that the iridium is in good condition and that there are no cracks in the gold pen itself. See that the comb feed is in good condition; if not supply a new one. Now place the feed-bar on the gold pen with the pointed end of feed-bar about 1/8 to 3/16 of an inch from the point of the gold pen and see that it is centrally located on the pen. See cut No. 4. Then hold-



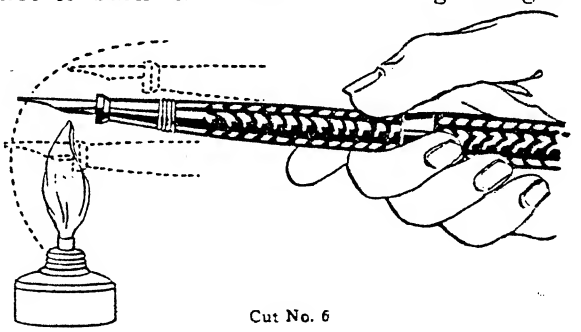
Cut No. 4

ing gold pen and feed in this position insert both into the point section. See cut No. 5, lining up the back of the gold pen with the space for owner's name or monogram on holder and push feed and gold pen into holder until the number on the gold pen is 1/8 of an inch from the face of the point section. While the distance between the face of point section and number on gold pen when it is placed will vary somewhat with the size of pen, you can easily determine the correct distance by exam-



Cut No. 5

ining pens of similar size in your stock. After gold pen and feed have been pushed into their proper location, examine them to make sure that the feed is still centrally located and that the point of feed is about 1/8 to 3/16 of an inch from the point of the gold pen. Now pass the feed and gold pen through the flame of an alcohol lamp. See cut No. 6. This heats the feed enough to make it flexible. Be careful not to burn it. Force the feed against gold



Cut No. 6

pen with the fingers and hold the feed in this position until it cools. It is well to wet the ends of the fingers a little before this operation, as this assists the cooling; care must be exercised to keep the feed from cooling completely before it has been brought into proper adjustment. Now holding pen in a horizontal position, examine the gold pen and feed through a magnifying glass and if you can see a ray of light between the feed and gold pen, the adjustment has not been perfect and will allow too free a flow of ink. When this is the case, heat the feed again and by drawing the fingers over the feed beginning at the face of the point section and drawing out slowly toward the point, you will get the feed to lay flat on the gold pen.

Note: It is sometimes a bit difficult for a beginner to properly adjust gold pens, but a little practice and strict adherence to these instructions with the aid of these illustrations will enable anyone to become an expert in this operation in a short time.

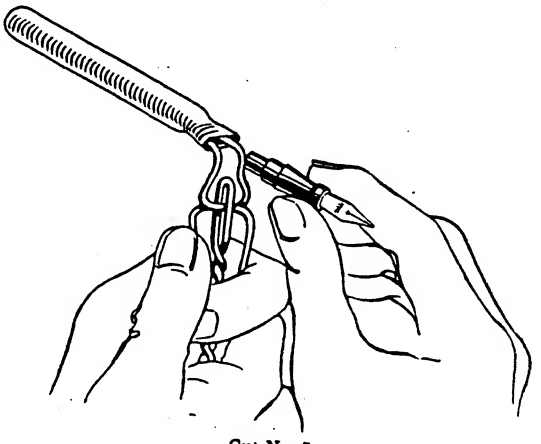
Proper adjustment demands that the feed be tight against the gold pen, that it be centrally located and that it be the proper distance from the point of the pen. When the old feed is damaged or refuses to function properly, a new feed must be furnished.

Before assembling the gold pen see that the points are properly set, in other words, make sure that there is enough tension in the points to hold them together, but not enough to hold them so tightly that writing requires any considerable effort. By bending the points up a little one at a time with the thumb nail and forefinger, you will remove the set. By bending them down slightly, one at a time, you will increase the set. Examine points under magnifying glass to make sure that they are even. If points are spread apart or one point extends a little ahead of the other, they can be adjusted in the same manner. In adjusting and setting gold pens, be careful not to twist the point section in the barrel, as so doing will twist the ink sac and cause considerable trouble in the filling operation. With the gold nib and feed properly adjusted, the point should write smoothly and the flow of the ink be even. Sometimes in adjusting the pen the position of the points is slightly changed and it is necessary to smooth the points a little with crocus paper as outlined in this article.

Article 11

HOW TO REPLACE AN INK SAC

Unscrew the cap and take the barrel in the left hand (with the pen point up) with a piece of flat sheet rubber as a grip on the barrel. Then with pliers No. 16 grip the point section just above the threads on the barrel and turn as if to unscrew it, being careful to keep the barrel and the point section in perfect alignment in order to prevent breaking the barrel. If the point section sticks or is difficult to remove, apply a little heat at the thread end of the barrel. Now with the pliers, work the point section about a little, twisting it and pulling it out. After the point section and old sac are out of the barrel, pull the old sac off the point section, being careful to remove all the soft rubber and glue from the point section. Now select a new sac of the proper size from your sac assortment, apply a thin coat of orange shellac from bottle No. 43 on the shoulder of the point section, expand the end of the new sac with the sac spreader No. 32 (see cut No. 7) and insert the rear shoulder of the point section into the sac as far as the first shoulder. Now release and draw out the sac spreader, being careful not to allow the sac to slip off, which it may have a tendency to do. Now with the fingers twist the sac around a little on the point section to make sure that the shellac completely covers the entire surface of the shoulder of the point section. Now apply



Cut No. 7

a thin coat of shellac to the next shoulder of the point section which fits inside of the threaded end of the barrel. Insert the sac into the barrel as far as it will go, at the same time keeping the back of the gold pen in line with the space for the monogram on the barrel. If the sac seems to be too large to slip into the barrel, do not force it in by turning the point section as this will twist the sac. By tapping the butt end of barrel on wood a few times the sac will gradually disappear into its place in the barrel. Do not stop tapping barrel until the shoulder of point section is in its proper position in the barrel as far as it will go. If you do, the sac may be doubled up at or near the point section and its closed end will not be down to the end of the barrel. Be sure that sac is properly distributed in the barrel. Now wipe off surplus shellac around the threaded end of the barrel and permit shellac to dry for about two hours before filling the sac with ink. If the lever filler is used before the shellac sets, it is apt to pull the sac off of the point section.

Article 12

HOW TO REPLACE A BROKEN RUBBER BARREL

Before replacing a broken rubber barrel examine the sac, and if it is old or worn or shows signs of having lost its life, replace it with a new one according to the instructions in Article 11. Now select a proper size new barrel and assemble the point section and sac into it as outlined in Article 11. If the point section does not fit perfectly into the new barrel (if it seems to be a little over-size) filing or turning off the shoulder will make it fit. If under-size, select a barrel from your stock that will fit. When assembling a point section, sac, feed and gold pen into a new barrel be sure to follow instructions given in Article 11, tapping the barrel on wood to make sure that sac is evenly distributed in barrel. Then test the fit of the cap on barrel as instructed in Article 13.

Article 13

REPLACING BROKEN CAPS ON RUBBER PENS

Select a new cap from your stock of the same size as the old one and try it on the barrel to test the fit. While practically all caps of our rubber pens of the same size are interchangeable, hard rubber sometimes shrinks and thus it is possible that two caps of the same size will not fit the same barrel. If one cap does not fit try several from your stock. If you have none that will fit perfectly, take one that is a little tight, put it in the lathe chuck and spin the lathe by hand and with the hand chasing tool No. 3 chase the threads out a little by starting the chasing tool at the outer end of thread, following around in thread and taking out a slight shaving as you go along until you have chased about one-fourth to five-sixteenths of an inch of the length of the thread. Usually a little chasing out of the thread will make the cap fit perfectly. It is sometimes necessary to chase the threads on the barrel and when this is necessary put the barrel in lathe chuck and, revolving the lathe by hand, take a slight shaving off of the barrel threads with chasing tool No. 11. Now screw the cap on and ascertain whether or not inner cap fits perfectly against the point section. To test this, screw cap onto barrel tightly and try lifting the filling lever as outlined in Article 4. If the pen seems to leak air it is possible that the inner cap is not of the proper length or that the ink sac is defective. If inner cap is not correct refer to Article 14 for instructions; if ink sac is defective refer to Article 11. If the face of point section has been damaged to such an extent as to impair the seat, the gold pen and feed must be removed and the point section faced off to give it a perfect seat. This can be done by putting point section into a lathe (after removing gold pen and feed) and with the use of tool No. 10 face it off slightly until you have a perfect seat or face. Then assemble gold pen and feed as outlined in Article 10.

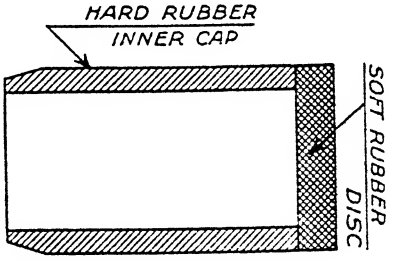
Replacing Broken Rubber Caps With Screw Eye Tasse

Screw eye tasses are screwed through cap and inner cap and have a lock nut on the inside of inner cap. To remove nut use socket wrench No. 7 engaging nut in the open end of wrench and unscrewing the nut. Then unscrew the tasse from broken cap. Select a new cap of proper size from your stock and see that it fits properly. Then drill a hole in the center of closed end of cap and inner cap with a size 49 drill (.073 diameter) being careful to see that inner cap is kept in its proper position while being drilled. Now screw tasse into the hole thus made and assemble lock nut on the inside of inner cap with socket wrench No. 7 and the job is complete.

Article 14

HOW TO REPLACE AN INNER CAP IN A RUBBER PEN

When an inner cap is broken or defective, take inner cap puller No. 20 and draw out the inner cap. If inner cap is poorly faced, reface it with tool No. 10 by first putting inner cap into lathe chuck and spinning it around, being sure that it runs true. If inner cap is damaged beyond repair a new one must be supplied. In this case select new inner cap about the same length as the one removed and if the latter was flat on one side to accommodate clip, the new one must be filed or ground off on the side in the same manner. Care should be taken in filing or grinding side of inner cap as too much filing or grinding will wear it so thin as to cause it to leak. With inner cap pusher tool No. 9 push inner cap into outer cap until you feel it hit bottom. In the case of a clip cap, keep the flat side of the inner cap in line with the clip so it fastens the clip in its place bearing in mind that the inner cap must be flat on one side to allow for the extra stock taken up by the clip. After assembling the inner cap into a pen, make a test to see that the inner cap sets properly on the point section as outlined in Article 4. If inner cap leaks air it is either too short or improperly faced or the ink sac may be punctured. The face of the point section may be poor. See Articles 11 and 13 for remedies for above.



Cut No. 8

Some of our rubber pens are made with a tube inner cap and soft rubber disc. (See cut No. 8.) When making renewals or repairs on this type of pen, pull inner cap in the same manner as outlined in this article and when assembling make sure that disc lies flat to act as cushion against the end of tubular inner cap at the bottom of cap.

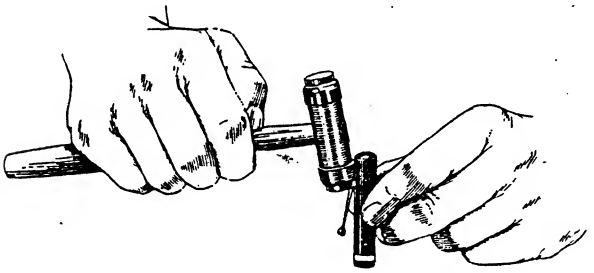
Article 15

HOW TO REPLACE A BROKEN CLIP ON RUBBER PEN

First with inner cap puller No. 20 remove inner cap and with it a part of broken clip. Now insert a new clip into perforation in cap and with inner cap pusher No. 9 push the inner cap back into place, keeping the flat side of inner cap in line with clip. When you remove

an inner cap for the purpose of replacing a clip, examine it for cracks and see if the face is perfect. If defective in either way, either reface it properly or supply a new inner cap.

When clip is bent it can usually be put back into position without taking it out of the cap. When simply sprung away from cap, it can be put back into place by tapping it on top with a fibre hammer as shown in cut No. 9.



Cut No. 9

Article 16

HOW TO REPLACE A BROKEN OR DAMAGED LEVER IN A RUBBER PIN

Wahl pens are made with two styles of lever —one with a spring catch and one without spring catch. To replace the latter, locate with lever assembly tool No. 48 the pin holes in the barrel on each side of lever, just a little forward from the center of lever. Push pin out far enough to release lever. Then select from your stock a new lever of the same size and style as the old one. Place the new lever in the slot, lining up the hole in the lever with the holes in the barrel. This done, push the lever pin back into place with lever pin tool No. 48, keeping the pin equally divided so that there is as much of the pin on one side of the lever as on the other. Now fill up pin holes in barrel with a little black wax crayon and the job is complete.

To replace new style spring lever in a Wahl rubber pen first pull point section and sac from barrel; then lift the lever slightly and remove the presser bar. Now with lever pin assembly tool No. 48 push pin out of lever. With this pin removed the lever is released. Now lift lever up at right angles to barrel and draw it to the back end of slot so that the ears or prongs on the under side of lever will come out through the two side slots in the barrel at the rear end of perforation. Now select a new lever of proper size and insert it through the slots through which you removed the old lever. Now place it in its proper position lining up the holes in the lever with the pin holes in barrel and assemble pin, following instructions given above in this article. Then reassemble presser bar as instructed in Article 29 and assemble point section and sac as outlined in Article 11.

Article 17

HOW TO REPLACE BROKEN OR DEFECTIVE POINT SECTION IN A RUBBER PEN

First remove the gold pen and feed as outlined in Article 10. Then remove point section from barrel and take rubber sac off point section. See Article 11. Select a new point section of proper size. If it is a trifle too large to fit in barrel, put it in the lathe chuck and turn it down to the proper diameter. Assemble ink sac onto the new point section and insert point section into barrel as explained in Article 11. Then assemble and adjust the gold pen as outlined in Article 10.

Articles 18 to 30 Inclusive Pertain to Wahl All-Metal Barrel Pens

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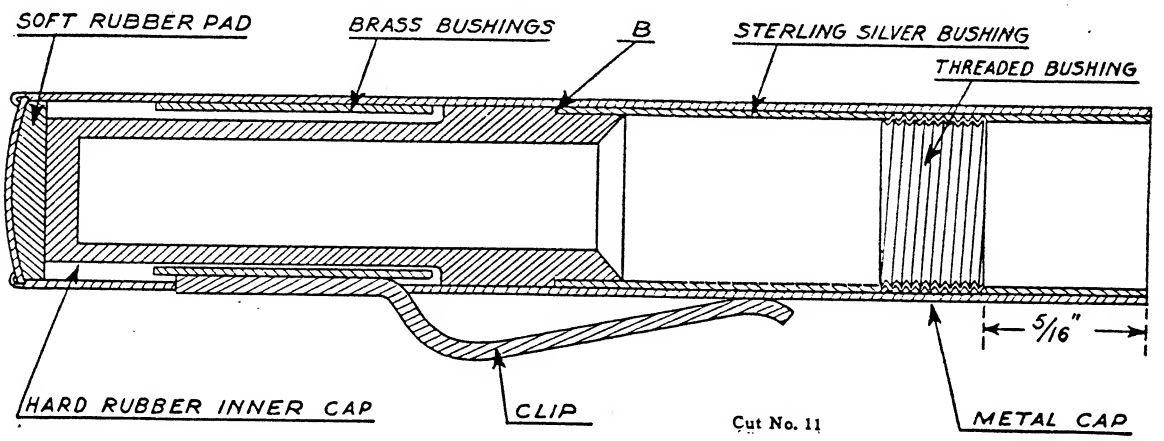
Article 18

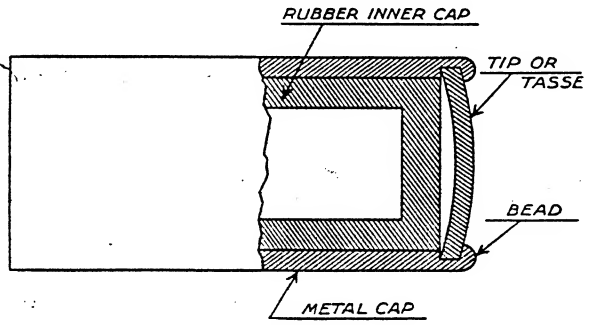
HOW TO REPLACE AN INNER CAP IN WAHL ALL-METAL BARREL PEN (Old Style)

To do this work it is necessary to have a bench lathe with a chuck, preferably an ordinary standard three-jaw chuck. To remove inner cap place it in chuck with the closed end of cap out so you can with tool No. 10 cut off the bead around the top which holds the tip or tasse in place. See cut No. 10. This will



Cut No. 11

release the tip or tasse. Be careful during this operation not to mark up the tip with the tool. You can then use the same tip or tasse when reassembling cap. After removing tip or tasse, push with inner cap assembly tool No. 9 the old inner cap out through the opening just made. If this cap has a clip on it, hold clip in place and insert a new inner cap, being sure to get one about 1/32 of an inch shorter than the



Cut No. 10

one taken out. Also line up the part which is milled off for the clip so that it comes in contact with and engages the clip to hold it in place. Push the inner cap in 1/16 of an inch beyond end of cap to allow for the insertion of tip and also for sufficient stock for spinning a new bead. When you have this inner cap in place and before putting the tip or tasse in again, screw cap on pen to be sure that inner cap fits properly. If new inner cap seems to be too long and does not permit the cap to screw on far enough, take it out, face off slightly in the lathe and reassemble it. Now with tool No. 10 counterbore out the end of the cap a trifle to make it large enough for the tip or tasse to enter again and when doing this be sure that there is about 1/32 of an inch of the stock on tip end of the cap projecting beyond the tip. This is necessary in order to spin a new bead about the tip. Now with spinning tool No. 6 spin the end of the cap over into bead shape so as to hold the tip and inner cap in place. See cut No. 10.

How to Replace Inner Cap in All-Metal Pen With Clip (New Style)

Cut off bead, (see cut No. 10) and remove tip, inner cap, rubber cushion and brass sleeve. Select new inner cap and face off open end to make it 1/32 of an inch shorter than one taken out. Now with tool No. 10 cut off the shoulder at E, (see cut No. 11) about 1/16 of an inch. Assemble brass sleeve on inner cap, put clip in place and assemble inner cap and sleeve in cap, being careful to have clip in proper position and have the slotted end of inner cap in line with clip. Now placing cap in lathe, counterbore end of cap to permit reassembling the tip or tasse and see that there is 1/32 of an inch of the cap wall projecting beyond tip to allow stock for spinning. Now reassemble the soft rubber disc cushion between end of inner cap and the tip. Then replace tip and spin a bead over tip.

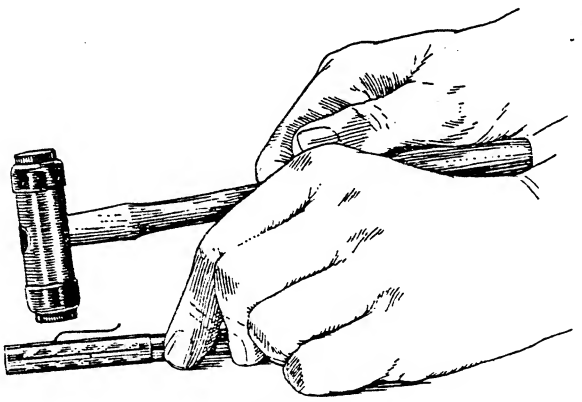
How to Replace Inner Cap in New Style Metal Pen Without Clip

First remove the jump ring from the tasse using two smooth pliers. Then remove tasse and push out old inner cap and cushion. Select a new inner cap and face open end and cut down at B (see cut No. 11) so that new inner cap is about 1/16 of an inch shorter than old one. Now assemble new inner cap in cap, counterbore end of cap to fit tasse, allowing sufficient stock for spinning bead, assemble soft rubber disc cushion and tip and spin bead over tip. Then reassemble jump ring with pliers.

Article 19

HOW TO ADJUST, REPAIR OR REPLACE A BROKEN CLIP ON A WAHL ALL-METAL PEN

If clip is simply bent out away from cap so that it does not clip the pocket properly, it can be brought back into shape with a slight tap of a fibre hammer No. 45 on top of the clip. See cut No. 12. If necessary to insert a new clip, follow instructions given in Article 18 for removing tip and inner cap. After removing inner cap reassemble new clip, inner cap and tip and spin bead about tip as instructed in Article 18.


Cut No. 12

Article 20

HOW TO REPLACE THREADED BUSHING IN CAP OF OLD STYLE WAHL ALL-METAL PEN

First remove old bushing by placing cap in lathe chuck with open end of cap out, while cap is spinning with a tool No. 10 scrape old bushing and all solder out of inside of cap, being careful not to let tool strike the inner cap. With the cap well cleaned out take a new bushing which has first been coated with solder (tinned), apply a little soldering paste No. 44

to outside of new bushing and push it into place. See that the outer end of the threaded bushing is 5/16 of an inch from the open end of cap, wipe off all soldering paste from outside of cap. Apply the heat of an alcohol lamp directly outside the bushing, being careful not to heat the tubing enough to blister the gold. This should be brought to a temperature of about 600° F. or until the solder melts and then cooled in water. Care must be exercised when heating the cap to melt solder not to let the heat get to the inner cap, heat should be applied near the open end of cap and as soon as solder melts drop the cap in water. If the inner cap is heated it will shrink. Now with a tap which fits the cap being repaired, tap the bushing out. See that the threads are in good working order, then try cap on barrel. This completes the job with the exception of cleaning and buffing.

HOW TO REPLACE THE THREADED BUSHING IN A NEW STYLE WAHL ALL-METAL PEN

Make sure that the old bushing and all solder is removed from inside of cap. Then apply a little soldering paste to surface of new bushing which has been tinned and push bushing into cap. Have threaded part of bushing 5/16 of an inch from open end of cap. See cut No. 11. Before heating wipe off all soldering paste from outside and end of a cap and bushing, otherwise the solder may run to the outside of cap as solder follows the flux. Now hold over flame of alcohol lamp to melt solder and cool in water. Screw cap on barrel to test the fit of threads and if necessary, tap threads in cap with tap of the size required. Then drill air holes in bushing through the air holes in cap.

Article 21

HOW TO REPLACE A POINT SECTION IN A WAHL ALL-METAL PEN

This may be done in the same manner as outlined in Article 17 for Wahl rubber pens.

Article 22

HOW TO REPLACE A CAP ON A WAHL ALL-METAL PEN

Select from your stock a cap of the same size, metal and design as the barrel and try cap on barrel. Sometimes it is necessary to clean out the threads on new caps which may be done by using a tap of the size required which will be found in the repair kit. When using this tap be careful not to permit it to go in far enough to strike the inner cap as this is likely to damage the inner cap face. In case new cap has less than three-quarters of a turn or more than one and one-half turns try another cap. If you do not have one that fits, one with less than three-quarters turn can be fitted by facing off the open end of the inner cap, or one with too many turns can be corrected usually by cutting out tip or tasse and pushing inner cap in farther until it gives the proper number of turns. Then replace tip or tasse and spin a bead around it as instructed in Article 18.

Article 23

HOW TO REPLACE A BARREL ON A WAHL ALL-METAL PEN

This is done in much the same manner as replacing a barrel on a Wahl rubber pen which is outlined in Article 12.

Article 24

HOW TO REPLACE THE INK SAC ON A WAHL ALL-METAL PEN

This is done as outlined in Article 11.

Article 25

HOW TO CLEAN AND ADJUST A GOLD NIB IN A WAHL ALL-METAL PEN

Follow instructions given for cleaning and adjusting gold nibs in Wahl rubber pens as given in Article 10.

Article 26

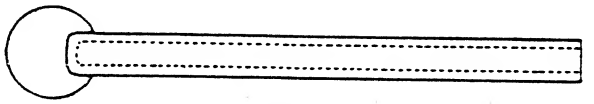
HOW TO REPLACE CHAIN-EYE TASSE IN A WAHL ALL-METAL PEN

Remove old tasse as explained in Article 18. This operation shortens the outer cap slightly and it is necessary to shave off a little of the inner cap to make up for the outer cap stock cut off. See Article 18. After shaving off a little of the inner cap, counterbore the outer cap slightly and assemble new chain-eye tasse and spin a bead about it as outlined in Article 18. Then assemble the jump ring and the job is complete.

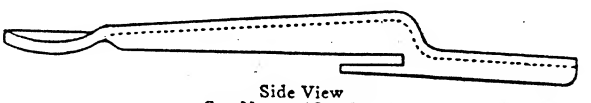
Article 27

HOW TO REPLACE A LEVER IN A WAHL ALL-METAL PEN

There are two styles of levers in the two styles of Wahl metal pen barrels. See cuts Nos. 13 and 14. In the old style, remove old lever and



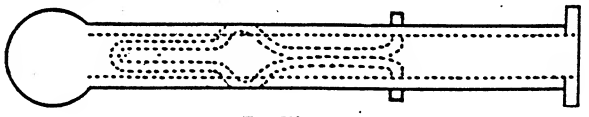
Top View



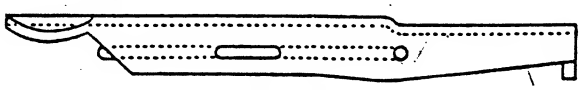
Side View
Cut No. 13 (Old Style)

select new lever of proper size and material and push new lever into slot ahead of the cross

pin in saddle and hook new lever over pin in saddle. Sometimes it is necessary to file a little stock out of the barrel at the front end of the slot to permit lever to enter. After the lever has been hooked over this pin, bend the prongs of the lever around the pin to hold it in proper position.



Top View



Side View
Cut No. 14 (New Style)

On the new style metal pen barrel (see cut No. 14) first pull the point section, sac and presser bar out of barrel. Then assemble the new lever into place engaging the little points on the side of the lever into the holes in the barrel which will be found near the front end of the perforation in the barrel and on the part which is turned down inside. With a small tool No. 48 you can release these little points from the inside of the lever, one point at a time. After you get one point entered, then enter the point on the other side and the lever is assembled. Before assembling a new lever be sure it is the proper size for the pen barrel in which it is to be installed. Each size pen barrel takes a different size lever. Now assemble the presser bar on the lever by engaging it in the two prongs of the lever and pushing in as far as it will go. Then reassemble point section and sac as instructed in Article 11.

Bent or Hanging Levers

When the lever on an old style barrel is bent or hangs out so that it catches in the clothing, remove point section and sac and raise lever part way and put end of tool No. 5 in the barrel and between lever and top of barrel. Now push down on end of lever outside of barrel bending it slightly. This will correct the defect so the lever will remain in normal position. Then assemble point section and sac as instructed in Article 11.

Loose Point Section

When a point section on a Wahl metal barrel pen is loose, first pull point section and sac out of barrel, then put point section into the lathe and while section is turning in the lathe hold a piece of rosin against that shoulder of the point section which fits into the metal barrel, thus coating the shoulder with rosin. Now find the proper size hole in block No. 47 and enter point section with nib down into the block. Then place the pilot No. 39 on the back end of the metal barrel and with fibre hammer No. 45 strike the pilot forcing the open end of barrel over shoulder of the point section. Keep in mind that the back of the gold pen should be in line with the space for name or initials on the side of barrel. Now tap the end of barrel on wood to jar the ink sac into proper position.

Article 29

REPLACING PRESSER BAR AND SPRING IN WAHL ALL-METAL PEN BARREL (Old Style)

First place barrel in lathe chuck and cut off bead and remove tip or tasse from back end of barrel as outlined in Article 18. See cut No. 10. Now disconnect the lever from the saddle on the filling device and remove it. Also remove the old presser bar, spring and saddle. Now assemble a presser bar, spring and saddle of the same size as the one removed. Next assemble lever on the pin on the presser bar as explained in Article 27. See that this is in its proper position and works properly before assembling tip or tasse and spinning bead around it. It may be necessary to grind a little off the back end of the saddle to make room for the tip.

Replacing a Presser Bar in Wahl All-Metal Pen Barrel (New Style)

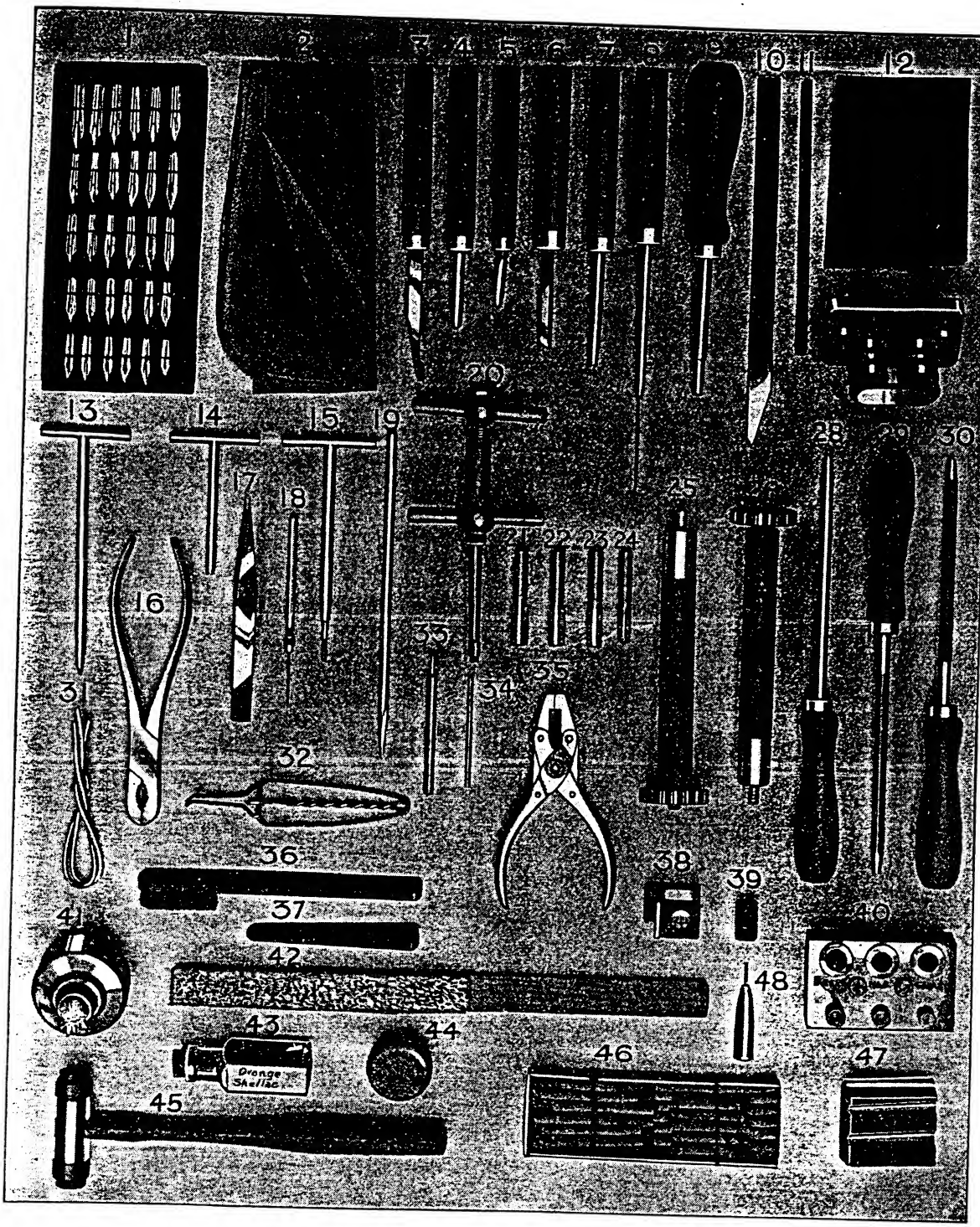
This can be very easily done by removing the point section and old presser bar from the barrel and then engaging the little prongs on the lever in the slot in presser bar. When these are engaged, slip the presser bar down as far as it will go, reassemble the point section and sac as described in Article 11 and the job is complete.

GENERAL INSTRUCTIONS

If a metal pen barrel or cap has been badly dented, it should be sent to the nearest office of The Wahl Company to have dents removed. When dented beyond repair, a cap or barrel should be replaced with a new one. When a barrel having special engraving on it needs to be replaced, we recommend replacing the barrel and having it suitably engraved with the old style engraving by a local jeweler. This will avoid sending pen back to factory for repairs which always takes several days.

On pages 18 and 19 appear price lists of all the necessary repair parts for both rubber, all-metal pen lines and Eversharp Pencil Parts. These prices are subject to discounts. When ordering please state size, design, and finish (yellow gold filled, sterling, etc.) of pen for which parts are wanted.

Please feel at liberty to call upon us for advice in making pen repairs at any time. Our Service Department will always be glad to furnish any special instructions or information not covered by this book.



PRICE OF TOOLS IN SERVICE REPAIR KIT

No.
1 WAHL Nibs, assorted sizes and points
2 Shino polishing cloth
3 Rubber cap thread chaser
4 Round nose burnisher
5 Flat burnisher
6 Tasse burnisher
7 Screw-eye tasse socket wrench
8 Clog remover
9 Inner cap assembly tool
10 Hard rubber facing tool
11 Rubber barrel thread chase
12 000 Crocus paper per sheet
13 Holder for E-2 brass bushing
14 Cross head remover
15 E-2 tap
16 Section remover pliers

No.
17 Tweezers
18 Drill chuck
19 Funnel puller
20 Inner cap puller
21 Tap for large size metal pen (old style)
22 Tap for medium size metal pen (old style)
23 Tap for small and ladies' size (old style)
24 Tap for miniature pen
25 Pencil cap puller
26 Inner barrel puller
27 Dent remover rollers and 3 arbors
28 Dent remover rollers and 3 arbors
29 Dent remover rollers and 3 arbors
30 Dent remover rollers and 3 arbors
31 1 stick of solder
32 Sac spreader

No.
33 E-2 remover and gold pen and feed drift pin
34 Drift pin for small nibs and feeds
35 Tip pliers
36 Brush
37 Fibre wedge
38 Magnifying glass
39 Pilot
40 Metal pen cap opening and closing die
41 Metal pen cap opening and closing die
42 Buff stick
43 Bottle orange shellac
44 Soldering paste
45 Fibre hammer
46 3 doz. assorted sizes rubber sacs
47 Burnishing blocks
48 Lever assembly tool

Price List of These Tools on Last Page

Style of Pencil	Name of Part							
	Tip	Magazine	Inner Barrel	Clips	Cap	Cap with Ring	Cap with Clip	Glove Snap Cap
ENAMEL PENCIL Nos. 151, 151C, 151SW	$0.25	$0.50	$0.25	$0.25	$0.10	$0.15		
COMMERCIAL PENCIL Nos. 154C, 153C	.25	.35	.25	.25	.15			
SILVER PLATED	.25	.50	.25	.25	.25	.35	.35	
STERLING SILVER	.25	.50	.25	.50	.50	.75	.75	$1.00
YELLOW GOLD FILLED	.25	.50	.25	.50	.50	.75	.75	1.00
GREEN GOLD FILLED	.25	.50	.25	.60	.75	1.00	1.00	1.25
14K ¼ GOLD FILLED	.25	1.25	.25	1.50	2.00	2.50		
18K ¼ GREEN GOLD FILLED	.25	1.25	.25	2.00	3.00	3.50		
14K SOLID YELLOW GOLD	.25	1.25	.25	4.50	5.00	5.50		
18K SOLID GREEN GOLD	.25	1.25	.25	4.50	5.00	5.50		
10K SOLID GOLD	.25	1.25	.25	3.00	4.00	4.50		
MINIATURE SILVER PLATED Nos. 120SW, 120C	.25	.50	.50	.25	.25	.35		
MINIATURE GREEN AND YELLOW GOLD FILLED Nos. 114SW, 110SW, 166SW, 173SW, 177SW, 167SW	.25	.50	.50		.50	.75		
MIDGET MINIATURE GREEN AND YELLOW GOLD FILLED Nos. 110MW, 114MW, 166MW, 173MW, 167MW, 177MW	.25	.50	.50		.50	.75		

Minimum charge on all repair work done by The Wahl Company 25c net.

The following Eversharp repairs can be made by Dealers and Service Stations **without charge** to customers:

Remove clogs when tip is not marred.
Tighten loose tips.
Tighten loose clips.
Tighten loose caps.
Loosen tight caps.
Loosen tight clips.
Replace defective magazines.
Install new feed wire.

WAHL RUBBER PEN PARTS PRICE LIST

No. on Holder	Gold Pen or Nib			Feed Bar	Point Section	Barrel	Cap	Ink Sac	Lever		Presser Bar	Roller Clip	
	No. on Nib	Price	Allowance on Old Nib						Nickel	G. F.			
2-12-52-62-72	2	$1.25	$0.20	$0.60	$0.75	$0.75	$0.25	$0.15	$0.30	$0.40	$0.30	Nickel	$0.25
13-63-73	3	1.50	.30	.60	.75	.75	.25	.15	.30	.40	.30		
14-64-74	4	1.75	.40	.60	.75	1.00	.25	.15	.30	.40	.30	Sterling	.75
15-5-65-75	5	2.25	.50	.60	.75	1.25	.30	.15	.30	.40	.30	Gold Filled	1.00
16-76	6	2.75	.60	.60	.75	1.50	.40	.15	.30	.40	.30	Solid Gold	2.50

WAHL METAL PEN PARTS PRICE LIST

Style of Holder	Gold Pen or Nib			Feed Bar	Point Section	Barrel	Cap	Ink Sac	Lever	Presser Bar	Clips
	No. on Nib	Price	Allowance								
SILVER FILLED *Chased Design*	2	$1.25	$0.20	$0.60	$0.75	$1.50	$1.50	$0.15	$0.30	$0.30	
	3	1.50	.30	.60	.75	2.00	2.00	.15	.30	.30	$0.30
	4	1.75	.40	.60	.75	2.75	2.75	.15	.30	.30	.30
	5	2.25	.50	.60	.75	3.00	3.00	.15	.30	.30	.30
STERLING SILVER OR YELLOW GOLD FILLED *Chased Design*	2	1.25	.20	.60	.75	2.00	2.00	.15	.35	.30	
	3	1.50	.30	.60	.75	2.75	2.75	.15	.35	.30	.50
	4	1.75	.40	.60	.75	3.00	3.00	.15	.35	.30	.75
	5	2.25	.50	.60	.75	3.50	3.50	.15	.35	.30	.75
STERLING SILVER OR YELLOW GOLD FILLED *Engine Turned*	2	1.25	.20	.60	1.00	2.50	2.50	.15	.35	.30	
	3	1.50	.30	.60	1.00	3.00	3.00	.15	.35	.30	.50
	4	1.75	.40	.60	1.15	3.50	3.50	.15	.35	.30	.75
	5	2.25	.50	.60	1.25	4.00	4.00	.15	.35	.30	.75
GREEN GOLD FILLED *Engine Turned*	2	1.25	.20	.60	1.15	3.00	3.00	.15	.40	.30	
	3	1.50	.30	.60	1.25	3.50	3.50	.15	.40	.30	.60
	4	1.75	.40	.60	1.35	4.00	4.00	.15	.40	.30	.85
	5	2.25	.50	.60	1.50	4.50	4.50	.15	.40	.30	.85
STERLING SILVER *Hand Engraved*	2	1.25	.20	.60	1.00	3.50	3.50	.15	.35	.30	
	3	1.50	.30	.60	1.00	4.50	4.50	.15	.35	.30	.50
	4	1.75	.40	.60	1.15	5.50	5.50	.15	.35	.30	.75
	5	2.25	.50	.60	1.25	7.25	7.25	.15	.35	.30	.75
MINIATURE GREEN & YELLOW GOLD FILLED	0	1.00	.10	.50	1.00	2.00	2.00	.15	.35	.25	.50
14K¼ YELLOW OR GR. GOLD FILLED	2	1.25	.20	.60	1.75	6.50	6.50	.15	.50	.30	
	4	1.75	.40	.60	2.00	7.50	7.50	.15	.50	.30	1.25

Cleaning and adjusting 25c net. (Cleaning free with pens requiring repairs.)

Exchange of nibs on new pens, no charge.

Repointing nibs 50c. No. "0" nib cannot be repointed.

Straightening of nibs 50c net.

Repointed nibs cannot be warranted to wear well or to have the same quality of point or flexibility as new pens. Pens smaller than No. 5 are seldom worth repointing.

Minimum charge on all repair work done by The Wahl Company 25c net.

Metal pen cap includes inner cap and clip or ring.

Metal barrel includes lever and presser bar.

Rubber pen cap includes inner cap.

Yellow gold-filled ½ inch bands $1.00 each; ¼ inch bands 75c each; ⅛ inch bands 50c each.

Prices on solid gold parts furnished on request.

The following Wahl Pen repairs can be made by dealers and Service Stations **without charge** to customers:

Smooth nibs.

Exchange nibs in new pens.

1	30 Wahl Nibs assorted sizes and points containing:	
	1 No. 0 @ 1.00	$ 1.00
	11 No. 2 @ 1.25	13.75
	6 No. 3 @ 1.50	9.00
	6 No. 4 @ 1.75	10.50
	3 No. 5 @ 2.25	6.75
	3 No. 6 @ 2.75	8.25
		$49.25

Subject to regular discount.
Nib Case Extra—$1.00 Net.
Following tools are shown at net prices:

2	Shino polishing cloth	$ .20
3	Rubber cap thread chaser	.50
4	Round nose burnisher	.25
5	Flat burnisher	.25
6	Tasse burnisher	.25
7	Screw-eye tasse socket wrench	.25
8	Clog remover	.25
9	Inner cap assembly tool	.25
10	Hard rubber facing tool	.25
11	Rubber barrel thread chaser	.30
12	000 Crocus paper per sheet	.05
13	Holder for E-2 brass bushing	.25
14	Cross head remover	.25
15	E-2 tap	.25
16	Section remover pliers	.50
17	Tweezers	.35
18	Drill chuck	.30
19	Funnel puller	.25
20	Inner cap puller, made in two sizes, each	1.00
21	Tap for large size metal pen (old style)	1.25
22	Tap for medium size metal pen (old style)	1.25
23	Tap for small and ladies' size (old style)	1.25
24	Tap for miniature pen	1.25
25	Pencil Cap Puller	1.00
26	Inner Barrel Puller	1.00
27 28 29 30	Dent remover rollers and 3 arbors	5.00
31	1 stick of solder	.05
32	Sac spreader	.20
33	E-2 remover and gold pen and feed drift pin	.15
34	Drift pin for small nibs and feeds	.05
35	Tip pliers	1.25
36	Brush	.15
37	Fibre wedge	.25
38	Magnifying glass	.50
39	Pilot	.05
40	Metal pen cap opening and closing die	3.50
41	Alcohol lamp	.40
42	Buff stick	.15
43	Bottle orange shellac	.15
44	Soldering paste	.15
45	Fibre hammer	1.25
46	3 doz. assorted sizes rubber sacs, less regular discount, each	.15
47	Burnishing blocks, each	4.00
48	Lever assembly tool	.15